



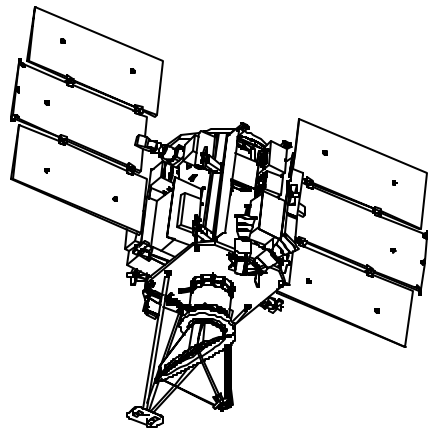
# Rapid Spacecraft Acquisition

Procurement 2000 Conference

March 29, 2000

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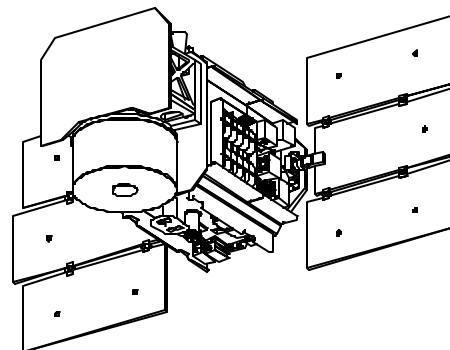
## RSA Awarded SC



QuikScat

Launched 6/99

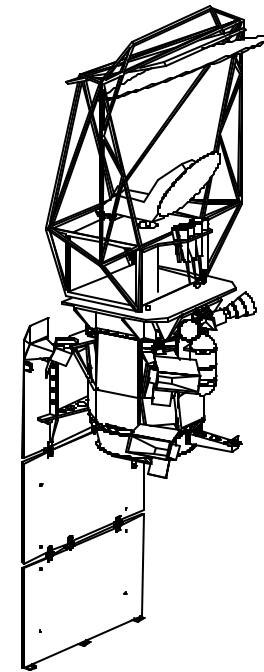
(Measures Ocean Wind Vector)



ICESAT

Launch 7/01

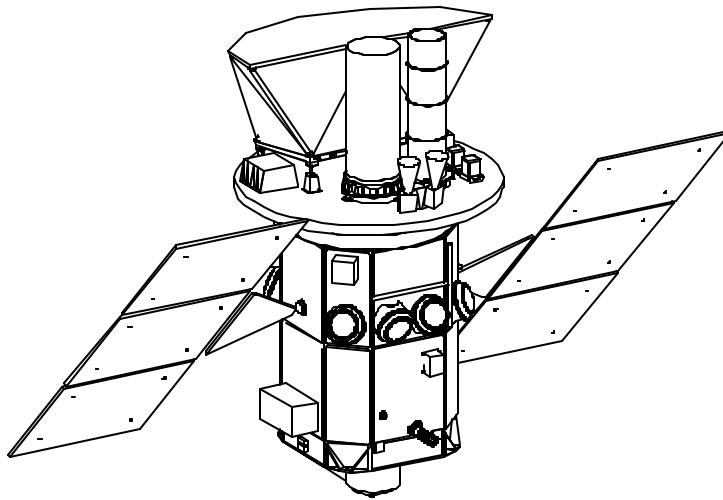
(Measures Ice Sheets, Climate  
Changes and Topographic Changes)



Coriolis

Launch 12/01

(Measures Mass Ejections from  
the Sun and Measures Ocean  
Surface Wind Vector)



Swift

Launch 7/02

(Investigates Gamma  
Ray Burst Events)



QuikTOMS

Launch 11/00

(Maps Global Distribution of  
Earth's Atmospheric Ozone)



## RSDO



- Rapid Spacecraft Development Office (RSDO)
  - Manages 2 Programs
- Rapid Spacecraft Acquisition (RSA)
  - IDIQ Catalog of Existing Satellite Busses
  - Orders Placed after “Mini-Competition”
  - Delivery Order Management Transferred to Customer
  - Current Catalog (Rapid II) Valid through January 2005
- Quick Ride
  - IDIQ Catalog of Piggy-Back Rides on Commercial Satellites
  - Orders Placed by CO after Best-Fit Analysis
  - Task Orders Managed by RSDO
  - Current Contract Valid through July 2003



## RSDO Purpose



- Capitalize on NASA and DOD Space Systems Investments and the Dramatic Advances in the Non-Government Space Market to Reduce Cost and Shorten Delivery Times
- Significantly Reduce the Time to Acquire Spacecraft
- Provide a Resource for Scientists Seeking Team Members while Competing in the AO Process
- In General, To Enable NASA's Strategic Scientific & Technological Initiatives



# Rapid Contracts



- Rapid II
  - FAR Part 12, Commercial Items
  - IDIQ/FFP -- FFP Delivery Orders
  - 6 Contractors/14 Existing Spacecraft Busses
  - Minimum Buy \$50K/Contract Maximum \$1.5B
  - Ordering Period -- January 2000 to January 2004
- Rapid I (Predecessor Procurement -- Still in Effect)
  - FAR Part 15, IDIQ/FFP -- FFP Delivery Orders
  - 8 Contractors/16 Existing Spacecraft Busses
  - Minimum Buy \$100K/Contract Maximum \$755M
  - Ordering Period -- October 1997 to October 2000



# Contract Scope



- Baseline Core System Scope of Work Includes
  - Spacecraft Bus Build and Test
  - Interface Integration and ICDs
  - Environmental Test
  - Shipment to Launch Site
  - Launch Vehicle Integration
  - On-Orbit Checkout
- Payments Based on Technical Completion Criteria under the Performance Based Payment Clause



## Contract Scope, continued



- Contracts Cover
  - Mini-Competitions Effecting Offer Updates for Specific Missions
  - Contingent Delivery Orders
  - Accommodation Assessments
  - Technology Infusion Studies
  - Right to “Sole Source”
  - Full Mission Integration Activation
  - Annual Baseline Updates for Performance Changes



## Rapid II



- Successor to Rapid I -- Provides Increased Service to Customers
  - “On-Ramp” Allows Us to Award New Contracts and/or Modify Existing Contracts to Add Additional Spacecraft
  - Annually, Contractors May Refresh Satellite Technical Details
  - Vendor Provided Delivery In-Orbit Available (i.e. launch service)
  - Ability to Purchase Individual Spacecraft Components



# Awarding Delivery Orders



- Requirements Defined by User
- RFO Developed by RSDO with User Assistance
- All Rapid II Vendors May Bid or No-Bid
- Director of Flight Projects Selects Vendor for a Specific Mission Based on Best Value Selection Decision
- Chief RSDO Selects Vendor for a Non-Mission Specific Based on Best Value Selection Decision
- Transfer Management Responsibility to User



# Awarding Delivery Orders



- Ordering Procedures Ensure All Contractors are Given a Fair Opportunity to be Considered
- Competition is Beneficial
- Evaluation Process
  - Mission Customer Leads and Performs Evaluation
    - RSDO provides MIM and CO for evaluation
  - Small Dedicated Evaluation Team Expedites Process (Avg. 5 to 7)
  - Focused Evaluation Schedule (1-2 days/offer)
  - Simple but Broad Evaluation Criteria



# Delivery Order Contents



- Delivery Order with Attachments
  - Mission Statement of Work
  - Mission CDRLs (if different from contract)
  - Mission Performance Specifications
  - Mission Implementation Specification
  - Performance Based Payment Events & Completion Criteria
  - Payment Schedule



# PBC Performance Requirements



- Basic Contract
  - Vendor Defined Spacecraft Performance Requirements
- Competing Delivery Orders
  - Customer Defined Spacecraft Performance Level
  - Contractors Define Mission Implementation and their Ability to Achieve the Required Performance Level



# PBC Incentive



- Fixed Price Delivery Orders
- Payments Based on Technical Completion Criteria under the Performance Based Payment Clause
- Payback/Replacement Spacecraft Required for Spacecraft Failure



# PBC Surveillance Approach



- Insight -- Not Oversight
  - Definition: Gaining understand necessary to knowledgeably concur with the Contractor's action through watchful observation, inspection or review of program events, documents, meetings, tests, audits, hardware, etc., without approval/disapproval authority.
- On-sight Government Employee
- Payment Upon Successful Completion of Defined Events
- Emphasis on ISO Process & Commercial Process



## Surveillance Approach, cont.



- Commercial Industry
  - “Almost Off-the-Shelf” Satellites Available
  - Commercial Practices Can Reap Benefits
- The Government
  - Need Not Compromise Safety, Quality & Reliability Expectations
  - Must be Flexible with Respect to Implementation
- Government/Industry Partnerships
  - Communication is Mandatory
  - Attitude Matters



## Success Factors



- Existing Products -- “Off-the-Shelf” Spacecraft
- Management Buy-in
- Competition Maintained through Last Delivery Order
- Fixed Price Orders with Performance Based Payments
- Government/Contractor Communication



## RSDO Results



- Reduces Acquisition Lead Time
  - Average Satellite Acquisition = 60 Days vs. 9 - 18 Months
- Reduces Implementation Risk
  - Performance Based, Event Completion
  - “Almost Off-the-Shelf” Design Removes Most NRE
    - Lower Risk
    - Quicker Build Cycles
- Reduces Cost in Implementation
  - EOS/Chemistry and LAM Cooperative Agreements  
Industry Estimates = \$60M/Spacecraft
  - Same Performance Busses Bought at \$39M